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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,534	05/25/2006	Takahiko Murata	071971-0607	5721

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MCDERMOTT WILL & EMERY LLP
600 13TH STREET, NW
WASHINGTON, DC 20005-3096

EXAMINER

KIM, KIHU

ART UNIT	PAPER NUMBER
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2809

MAIL DATE	DELIVERY MODE
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08/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,534

Applicant(s)

MURATA ET AL.

Examiner

Kiho Kim

Art Unit

2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/31/06 and 5/25/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This application is in condition for allowance except for the following formal matters:

- On page 10. line 23, "plan" should be replaced with "planar."
- On page 10. line 25, "plan" should be replaced with "planar."
- On page 10. line 1, "plan" should be replaced with "planar."
- On page 10. line 3, "plan" should be replaced with "planar."
- On page 11, line 10, "fifth" should be replaced with "sixth."
- On page 11, line 13, "fifth" should be replaced with "sixth."
- On page 15, line 19, on page 16, line 11, on page 19, lines 1 and 14, "VB" is not specified in Fig. 2. It should be replaced with " V_B ". ("B" should be as subscript.)
- On page 16, line 11, the sentence, "Then, at time T5, the voltage of the power line 8 is raised from V_L to V_H ", is not in consistent with Fig. 2.
- On page 19, line 8-10, the sentence, " the voltage of the reference capacitor element control line 10.....capacitor element control line 11.", is inconsistent with FIG. 4.
- The abstract of the disclosure is objected to because the abstract should be less than 150 words. Correction is required. See MPEP § 608.01(b).

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

Claims 1 – 12 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding Claim 1, this invention is novel over the prior art by U.S. Pat. Nos. 4,745,278 A, 4,792,681 A, and 4,902,895 A to Hanson.

(Hereafter Hanson) The prior art of record fails to teach or fairly suggest an infrared sensor, having a series capacitor element and a reference capacitor element each exhibiting a predetermined capacitance value; an infrared-detecting capacitor element whose capacitance value varies depending on an intensity of infrared light incident on the element; and an output node being a node at which a first terminal of the series capacitor element, a first terminal of the reference capacitor element and a first terminal of the infrared-detecting capacitor element are connected to one another, wherein: a potential of the output node is brought to a reference potential by applying a predetermined voltage between a second terminal of the series capacitor element and a second terminal of the reference capacitor element; a potential of the output node is brought to a detection potential by applying the predetermined voltage between the second terminal of the series capacitor element and a second terminal of the

infrared-detecting capacitor element; and the intensity of infrared light is output as a potential difference between the reference potential and the detection potential as set forth in the claim.

Regarding Claim 12, the prior art of record also fails to teach the application of the first independent claim into an two-dimensional array, which is having a plurality of infrared sensors arranged in a two-dimensional matrix pattern, and a plurality of series capacitor elements each exhibiting a predetermined capacitance value, wherein each infrared sensor includes an infrared-detecting capacitor element whose capacitance value varies depending on an intensity of infrared light incident on the element, and a selection switch whose first terminal is connected to a first terminal of the infrared-detecting capacitor element, and second terminals of the selection switches included in the infrared sensors that are arranged along the same column of the matrix pattern all share the same series capacitor element.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Akagawa et al., Kalnitsky et al., three of Hanson, Funaki et al. Soch et al., Akagawa et al., Sauer et al., Kalnitsky et al. and Funaki et al. were reviewed upon examining this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiho Kim whose telephone number is (571)270-1628. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Nguyen can be reached on (571)272-2402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/K.K./


KIMBERLY D. NGUYEN
PRIMARY EXAMINER